

Enhancing Education Through Technology (EETT) Competitive Sub-grant Application Assurance Sheet

Improving Science Achievement

Project Title: Through Technology Integration Amount of Request: \$ 75,000.00

District Name (Fiscal Agent for Consortiums): West Side Joint Number: 202

Please list the school name, and indicate whether it is a targeted school or a partner school and certify the CIPA compliance for all participating schools within the project:

Dist. # or 'P' for Private School	School Name	This school is a targeted school 'T' or a partner school 'P'.	This school is in compliance with the CIPA as outlined on page 3 of the guidance document.
	<u>H-B Lee Middle School</u>	T <u>P</u>	<u>YES</u> NO
	<u>H-B Lee Elementary School</u>	T <u>P</u>	<u>YES</u> NO
	<u>West Side High School</u>	<u>T</u> P	<u>YES</u> NO
		T P	YES NO
		T P	YES NO
		T P	YES NO
		T P	YES NO
		T P	YES NO
		T P	YES NO
		T P	YES NO
		T P	YES NO
		T P	YES NO

I certify that we have contacted the charter and private schools in our area about participation in this grant.

Superintendent Name <u>Melvin E. Beutler</u>	E-mail <u>mbeutler@wssd.k12.id.us</u>	Telephone <u>208 747-3502</u>
Signature <u>Melvin E. Beutler</u>		
District Technology Coordinator Name <u>Cole Tarbet</u>	E-mail <u>ctarbet@wssd.k12.id.us</u>	Telephone <u>(208) 747-3502 ext 106</u>
Signature <u>Cole Tarbet</u>		
Project Director Name (if different than District Technology Coordinator) <u>Melissa Waddoups</u>	E-mail <u>mwaddoups@wssd.k12.id.us</u>	Telephone <u>(208) 852-3747</u>
Signature <u>Melissa Waddoups</u>		

Abstract

Summary / Description:

The West Side School district will use 2007-2008 EETT funds to target and train our *science teachers* to effectively integrate technology into their classroom instruction. These teachers will receive extensive technology training and then become integration specialists in their buildings. They will then share integration knowledge and skills with teachers in other disciplines through regularly-scheduled inservice throughout the year. Funds will also be used to set up the classrooms of these teachers with wireless Internet access, a laptop, a projector and a Smart board. This equipment, in combination with professional development, will produce highly qualified teachers, provide our students with updated resources and differentiated instruction to accommodate a variety of learning styles, and offer many opportunities for real-life application of State Science Standards; thus, increasing student achievement.

Need:

The West Side School District is a small rural school district located in southeast Idaho. Our district includes three schools: an elementary, a middle school and a high school. District enrollment is 570 students with a 70% poverty rate according to free and reduced lunch data. District families represent low to moderately educated families. Most patrons are high school graduates, but few have advanced degrees. Students are bright and hardworking, but many lack advanced technological exposure outside of the classroom. Information received through an informal survey shows over 70% of our students lack high-speed connectivity at home. The exposure these students have to technology is often limited to the opportunities provided in school.

The Idaho Legislature has recently approved the State Board of Education to enhance the focus on science education with increased requirements in high school. This change will require six credits of science for students entering 9th grade in 2009. In addition to an increased requirement for science credits in high school, the State Board of Education has created ISAT cut scores for science in grades 5, 7 and 9. As a district, our students score well in the areas of Reading and Mathematics on the Idaho Standards Achievement Tests. However, we score quite low on the Science portion of this assessment in all grades district wide. According to spring 2007 ISAT data, over half of our 5th, 7th and 10th grade students did *not* receive a passing score. This is due to a shortage of up-to-date curricular materials, a lack of teaching skills to effectively apply science content into the lives of our students, and a low interest level of students in basic and advanced science subject matter.

School Improvement:

Through this proposal, all middle school and high school students will have daily access to advanced technologies in their science classrooms. Through advanced integration training and collaboration efforts, science teachers will use technology to enhance instruction during lessons and increase student learning. Lessons will be differentiated using technology to meet the individual needs of students. Reluctant science learners will be engaged in the learning process through the use of technology.

Student Achievement:

Student achievement gains will be expected in all science subject areas as determined by ISAT and NAEP data. Baseline data from spring of 2007 will be used to determine increased achievement as well as to determine the amount of growth after program implementation. Pre and post implementation surveys will be given to students to gauge increases in interest in science subject matter.

Educational Need

Data Sources and Trend Data:

- Spring 2007 ISAT data reveals that 50% of our 5th grade students did not reach proficiency in science. 61% of our 7th graders did not reach proficiency in science. 30% of our 10th graders did not reach proficiency in science. Since cut scores have only recently been available to determine proficiency we do not have data beyond last spring. However, in looking at ISAT science scores prior to spring 2007 and comparing them to the new cut scores, our students have not made gains in science since the implementation of science on the ISAT.
- When asked, over 80% of our teachers in K-12th grade noted science as an area of academic concern in their building. Increased science requirements that go along with high school reform and new cut scores on the science portion of ISAT have contributed to this awareness.
- Of our 8 science teachers targeted for this project, only 1 has received technology training beyond what is necessary to complete the basic state technology proficiency requirement.
- Surveys were sent to each science teacher prior to this proposal to solicit ideas and opinions about technology in the science classroom. These comments show an understanding of the value of technology in their subject matter. Additionally, the surveys revealed a real lack of connectivity and equipment to adequately use technology to support instruction and learning in science classrooms. Sample teacher survey comments include:

"As a 5th grade teacher I would say that technology is an essential need in assisting us to better teach Science. There are so many innovations and advancements in all fields of Science that a textbook can't possibly keep up with the changes. Whether it be changes in Astronomy with new planets and galaxies being discovered or new satellites or space stations being sent up or advancements in health technologies and treatments, a textbook becomes obsolete too quickly." - Gregg DeFriez, 5th Grade Science Teacher

"Thank goodness we have the internet to find recent pictures from the Hubble Telescope, to keep up with scientific discoveries and advancements, and to find newsworthy Science related happenings to share with our students. Having up to date technology to share the wonderful things available in our day and age with our students would be phenomenal." - Heidi Weatherspoon, 5th Grade Science Teacher

"Technology is critical to teaching science, as it is a hands-on and visual content area. A major component of science is the application of technology in learning more about the various branches of science." - Brent Adams, Middle School Science Teacher

The comments from all district science teachers show an awareness of the need for technology, and a great interest in more training and a willingness to spend the time to be trained and implement new skills.

- Middle school and high school students were given an informal survey to determine how much access to technology they have outside of school. Surprisingly, this survey shows that more than 70% of our middle school and high school students do not have high-speed connectivity at home. This survey has highlighted the need for our schools to continue to provide myriad opportunities for access to technology of all types: computers, microscopes, probes, software, Internet, etc.
- District-wide, it has been 8 years since the last formally organized technology training was given to teachers.

- West Side School District has recently placed an increased emphasis on concurrent enrollment courses. 85% of our seniors and 91% of our juniors are currently enrolled in college level courses. Through these courses, our students are able to earn high school and college credits. Many of our students are taking college level chemistry, biology, physics, anatomy, and physiology. These courses are extremely rigorous and require a solid background in various branches of science. To ensure the success of these students our elementary and middle school programs must be able to provide a solid foundation in science to our students. Technology will assist in this goal.
- In a 2000 study commissioned by the Software and Information Industry Association, Sivín-Kachala and Bialo (2000) reviewed 311 research studies on the effectiveness of technology on student achievement. Their findings revealed positive and consistent patterns when students were engaged in technology-rich environments, including significant gains and achievement in all subject areas, increased achievement in preschool through high school for both regular and special needs students, and improved attitudes toward learning and increased self-esteem.
- In examining large-scale state and national studies, as well as some innovative smaller studies on newer educational technologies, Schacter (1999) found that students with access to any of a number of technologies (such as computer assisted instruction, integrated learning systems, simulations and software that teaches higher order thinking, collaborative networked technologies, or design and programming technologies) show positive gains in achievement on researcher constructed tests, standardized tests, and national tests.
- In a study that examined relationship between computer use and students' science achievement based on data from a standardized assessment, Papanastasiou, Zemblyas, & Vrasidas (2003) found it is not the computer use itself that has a positive or negative effect on achievement of students, but the way in which computers are used.

While this data and these research studies solidify a district wide-need for technology integration, especially in our science courses, the integration of technology alone will not increase student academic achievement. Our district Technology Plan places a substantial amount of emphasis on professional development. We understand the importance of training our teachers and providing them with the skills to be successful. Without thorough and proper **training** for our teachers, we cannot expect to see an increase in enthusiasm for science, an increase in student learning, or higher test scores. Our foremost goal is to provide our science teachers with the necessary skills to effectively use a variety of technologies for the purpose of increasing student achievement.

Local Project Details

Goal #1 Provide Integration Training to Science Teachers			
#	Objective	Activity	Timeline
1.A	All West Side Science Teachers will be expertly trained in the use of technology in the classroom for the purpose of student achievement.	Select 8 district science teachers to participate in this initiative. Each school must have a minimum of one science teacher participating. Prior to completing the EETT 07-08 grant proposal, solicit commitments from 8 science teachers.	November 2007 (This activity is already completed. We have firm commitments from 8 teachers and a wait list)
1.B	Teacher Mentor will be available to assist science teachers as they receive technology training and integrate technology into their classrooms.	Select a Head Integration Specialist. Any participating teacher may apply. Skills, aptitude for technology, and an interest in leadership will qualify candidates. District administration will make the final selection.	January 2008 Immediately following grant award notification.
1.C	Provide High Quality Professional Development	Research possible courses and training modules. Select a model that will offer: basic technology skills, integration activities, and require teachers to complete lesson plans for integration	November 2007 (This activity is already completed. We will use an interactive college-level course developed by Mike Hansen at Preston High School)
1.C	Provide High Quality Professional Development as outlined in <i>District Technology Plan</i> .	Schedule weekly after school inservice with participating teachers. Time will be used for training, collaboration, lesson plan writing and lesson sharing activities.	March 2008 and continuing weekly through the school year. Team will meet 1/ month during the summer to prepare for training other teachers during the school year.
Goal # 2 Increase the Number Teachers Trained in Technology Literacy and Integration			
2.A	Provide technology training for participating and nonparticipating teachers and classified staff members.	Dedicate one embedded inservice each month (60 min.) to training non-participating teachers in effective integration strategies.	Monthly beginning in the Fall of 2008 and continuing on through the school year.

Goal #3 Provide Increased Access to Technology			
3.A	Provide participating classrooms with Technology sufficient to integrate technology into the science curriculum.	Purchase a laptop, projector, Smart board and mounting device or cart for the classrooms of participating teachers.	February 2008
3.A	Provide participating classrooms with Technology sufficient to integrate technology into the science curriculum.	Purchase software, probes and digital microscopes for science classrooms	February 2008
3.B	Provide High Speed Wireless Connectivity to participating classrooms	Purchase equipment and provide installation for wireless connectivity in each participating classroom	March 2008
Goal #4 Increase Student Achievement in Science			
4.A	Show academic growth on 5 th , 7 th and 10 th grade ISAT Science Scores	Track spring 2007 baseline ISAT data. Compare to Fall 07 and Spring 08. Report progress	April 2008, September 2008, April 2009 and continuing.
4.B	Students will show an increased interest in science.	Pre implementation surveys will be given to all students and teachers regarding their attitudes toward science. Mid implementation and post implementation surveys will be given to determine growth.	January 2008, May 2008 and December 2008
4.C	Teachers will effectively use Technology in the classroom to improve achievement	Through training, teachers will have the skills to create lesson plans which use technology, teach lessons using technology, and allow students opportunities for technology use to better understand science and other concepts.	Daily beginning February 2008
4.D	Students will have increased access to technology in science	Students will use various technology tools and software programs to help bring science to life. These activities include: simulations, electronic microscopes, software programs, and presentation programs.	Daily beginning February 2008

Sustainability

Teacher professional development is the most critical element in successful project sustainability. Each week for the past three years, our district has provided 60 minutes of embedded inservice time for teachers. To support and sustain this project, the team of science teachers selected for this project will prepare and present inservice on technology integration to nonparticipating faculty and staff members each month during the school year (after their initial training.) In this way, we have developed a train the trainer model and will be able to sustain it with weekly inservice provided by the district each year. Technology funds and district funds will be used as available to continue to purchase technology equipment to update all teacher classrooms. Additionally, grants will continue to be sought to improve our technology equipment and increase professional development opportunities. By the end of the 2009-09 school year, all of our faculty members will have received extensive integration training and become skilled at infusing technology into their classrooms. Additionally, lesson plans for integrating technology into the curriculum will be created and used from year to year as well as shared with other faculty members. Activities and lesson plans developed through this initiative will be included in each teacher's curriculum map which delineates standards, lessons, assignments, and assessments for each course they teach.

Each year, our ***Technology Plan*** is reviewed and revised if necessary. A major portion of that plan emphasized professional development to ensure that our teachers and staff have the necessary skills to effectively integrate technology into the curriculum. We will continue to place a high importance on professional development for our teachers.

The additional equipment received through this proposal will be maintained and serviced by district technology personnel. Schools have prepared policies for appropriate use of technology and any student using technological equipment belonging to the district will sign a contract for appropriate use. This will lengthen the life of the equipment.

Assessment data and informal survey results will continue to be collected at the end of each testing cycle, in the spring and fall by building administration. Scores and results will be compared from year to year to determine academic growth and achievement. If growth is not maintained, program reevaluation will occur and plans for intervention will be created. Inservice surveys will also be given to teachers at the end of the year to determine effectiveness of integration instruction and to solicit suggestions for improvement in ensuing years.

West Side #202 EETT Budget

Refer to Goal and Objective	Item / Description	Qty	Cost Each	TOTAL
3.A, 4.D	Laptop computer and software for each participating teacher	8	\$1,000.00	\$8,000.00
3.A, 4.D	SmartBoard and connection apparatus for each participating teacher's classroom	8	\$2,000.00	\$16,000.00
3.A, 4.D	Projector for each participating teacher's classroom	8	\$1,500.00	\$12,000.00
3.A, 4.D	Mounting Device or Cart for projector for each participating teacher's classroom	8	\$ 250.00	\$ 2,000.00
3.B, 4.D	Technology supplies and materials for each participating teacher's classroom- Software-\$250, probes-\$300, microscopes-\$400= \$950.00 total	8	\$ 950.00	\$ 7,600.00
1.A, 4.A, 4.B, 4.C	Professional Development- Interactive course developed by Mike Hansen at Preston High for participating teachers to learn the basics of technology, integration of technology in the curriculum, and how to create lesson plans using technology for student achievement. \$200 per course and credits	8	\$ 200.00	\$ 1,600.00
1.A, 1.C, 2.A, 4.C	Professional Development- Stipend for participating teachers for time spent in 10 weeks of training- 10 weeks * 10 hrs/week * \$25/hour= \$2,500 each	8	\$2,500.00	\$20,000.00
1.A, 1.B, 1.C, 2.A, 4.C	Professional Development- Head Integration Specialist to assist teachers with their course as they work through interactive modules. Planning time and teaching integration skills, lesson plans, and collaboration for all participating teachers. 1 hour teaching, 2 hours preparation *20 weeks * \$25.00/hour= \$1,500.00	1	\$1,500.00	\$ 1,500.00
1.B, 1.C	Professional Development- Boise Training for 2 individuals. Travel=\$200, Hotel=\$100, Perdiem=\$100= Total \$400 each	2	\$400.00	\$ 800.00
TOTAL PROFESSIONAL DEVELOPMENT= \$22,000.00 or 32% of total grant funds				
1.A, 1.B, 4.A, 4.B, 4.D	Administrative Costs- Financial Management, survey administration, data collection and analysis, paycheck distribution, grant reporting, oversight of involved personnel= \$3,500 (<5% of total grant funds)	1	\$3,500	\$ 3,500.00
	Installation of equipment and wireless connectivity. 80 hours * \$25/hour= \$2,000	1	\$2,000	\$ 2,000.00
Total Grant Budget				\$75,000.00